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Appendix I U134 Waste Code



Form 412.09
10/06/99 - Rev. 04

Technical Interpretation	TREATMENT VARIANCE FOR NON-LIQUID WASTES WITH U134 CODE	Identifier: EA-TI-013 Revision: 0 Page: 1 of 10
Document Control Center: (208) 526-3194 c/o Ruth Snow	Document Owner: Manager, RCRA/TSCA/CERCLA Policy, Permitting and Integration	Effective Date: 5/30/00

1. STATEMENT OF ISSUE REQUIRING TECHNICAL INTERPRETATION

Are non-liquid hazardous wastes with the U134 (hydrogen fluoride) code attached required to comply with the 40 CFR 268.40 requirement (i.e., neutralization with identified reagents)?

2. TECHNICAL INTERPRETATION

U134 is a listed waste and is listed due to corrosivity and toxicity. The hazardous waste number is associated with unused commercial chemical products and off-specification species and spills thereof. U134 is also associated with secondary wastestreams that come into contact with or are derived-from the treatment of a waste source coded with the 134 hazardous waste number. Nonliquid secondary wastestreams that contain no free liquids are by definition noncorrosive (per 40 CFR 261.22). As a result, requiring treatment in accordance with the current 40 CFR 268.40 treatment standard for purposes of land disposal is inappropriate.

3. APPLICABLE AUTHORITY

40 CFR 268 "Land Disposal Restrictions"
IDAPA 16.01.05.011 "Land Disposal Restrictions"

4. BACKGROUND

The 40 CFR 268.40 LDR specified treatment standard for non-wastewater U134 is Adgas fb Neutr (Adsorption of gas followed by neutralization) OR Neutr (neutralization). Neutralization as described in 40 CFR 268.42 is "neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewater) resulting in pH greater than 2 but less than 12.5 as measured in the aqueous residuals."

U134 is listed waste and as such the listed waste hazardous waste number can apply to multiple types of non-liquid secondary wastestreams such as PPE, soil, and wood that have contacted the source waste streams which carry the U134 hazardous waste number. The U134 hazardous waste number also applies to treatment residuals that are derived from the treatment of a U134 waste stream. The U134 LDR treatment standard as

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Technical Interpretation	TREATMENT VARIANCE FOR NON-LIQUID WASTES WITH U134 CODE	Identifier: EA-TI-013 Revision: 0 Page: 2 of 10
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developed by EPA and discussed in preamble language for the non-wastewater treatability group appears to be specific to situations involving reagent grade commercial chemical products or other secondary wastestreams that exist in gaseous form or liquid form and whose pH is less than or equal to 2.0. It appears that the agency may not have considered non-liquid wastestreams in the development of the U134 LDR treatment standard.

5. DETAILED ANALYSIS

Correspondence RHG-40-99. LMITCO, Richard H. Gurske; to Idaho Division of Environmental Quality, Brian R. Monson. July 22, 1999. (Copy attached)

Transmitted a request for a site-specific treatment variance for non-liquid hazardous wastes that are assigned the hazardous waste code U134 (hydrogen Fluoride, CAS # 7664-39-3).

Correspondence. Idaho Division of Environmental Quality, Brian Monson to LMITCO, Richard Gurske. August 25, 1999. (Copy attached)

Responded to the site-specific treatment variance and included the following. "The Idaho Division of Environmental Quality (IDEQ) concurs non-liquid U134 waste streams generated at the INEEL differ significantly from waste used to establish the current LDR standard for U134. The IDEQ also agrees it is not EPA's intent to create a situation where large volumes of listed waste rinsate are generated from neutralizing U134 solids.

Pursuant to IDAPA 16.01.05.011 [40 CFR § 268.44(h)], the IDEQ grants INEEL a site-specific treatment variance for non-liquid U134 wastes. For a waste stream which carries multiple hazardous waste codes (i.e., incinerator ash), this variance only provides LDR relief for the U134 component of the waste stream. All other listed and/or characteristic waste constituents in the waste stream must be treated by the appropriate method as specified in 40 CRF Part 268."

6. DOCUMENTS AFFECTED

None. May impact specific facilities operating procedures.

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7. FACILITIES/ACTIVITIES IMPACTED

Facilities which generate waste streams that have the U134 listed waste code attached.

8. CONTRIBUTORS

David J. Blumberg

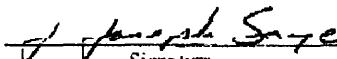
9. APPROVALS

APPROVAL: Environmental Director


Signature

5/16/00
Date

CONCURRENCE: Legal Representative


Signature

5/11/00
Date



LOCKHEED MARTIN

Lockheed Martin Idaho Technologies Company
P.O. Box 1625
Idaho Falls, ID 83415

July 22, 1999

Mr. Brian R. Monson, Chief
Hazardous Waste Permitting Bureau
Idaho Division of Environmental Quality
1410 North Hilton Road, 3rd Floor
Boise, ID 83706-1255

REQUEST FOR A SITE-SPECIFIC TREATMENT VARIANCE - RHG-40-99

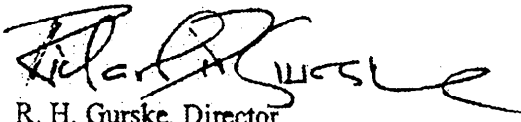
Dear Mr. Monson:

Attached is a site-specific treatment variance request [per 40 CFR 268.44(h)] for nonliquids that are assigned the U134 (Hydrogen Fluoride, CAS # 7664-39-3) hazardous waste number. The Idaho National Engineering and Environmental Laboratory (INEEL) currently generates and manages a large volume of non-liquid wastes that are coded with multiple hazardous waste numbers including U134. The 40 CFR 268.40 treatment standard for U134 is Neutr (i.e., neutralization). Neutr is defined in 40 CFR 268.42 as "neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) acids, (2) bases, or (3) water (including wastewater) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals."

During prior discussions with Pam Smolczynsky of your Division, the INEEL expressed concerns regarding the specified treatment standard associated with nonliquids that are assigned the U134 hazardous waste number. Ms. Smolczynsky recommended that the INEEL develop and submit a site-specific treatment variance request for the Division of Environmental Quality review.

If you need us to support you in any communication or follow-on activities associated with this submittal, please call me at (208) 526-4704.

Sincerely,



R. H. Gurske, Director
Environmental Affairs

TEV:kd

Mr. Brian R. Monson
July 22, 1999
RHG-40-99
Page 2

cc: N. Brooks, DOE-ID, MS 1146
T. L. Carlson, LMITCO, MS 8101
J. M. Connolly, LMITCO, MS 3428
D. R. Gibby, LMITCO, MS 4109
P. B. Gray, LMITCO, MS 4142
K. McNeel, LMITCO, MS 3428 *Km*
C. D. Natoni, DOE-ID, MS 4201
D. N. Rasch, DOE-ID, MS 1146
T. E. Venneman, LMITCO, MS 3428 *TV*
D. L. Wessman, DOE-ID, MS 1146
R. H. Gurske File

REQUEST FOR TREATMENT VARIANCE FOR U134 NONLIQUIDS

INTRODUCTION

The INEEL requests a site specific treatment variance from the Land Disposal Restriction (LDR) in accordance with the requirements of 40 CFR 268.44(h). The request for a site-specific treatment variance is for non-liquid (i.e., non-corrosive) secondary waste (e.g., PPE, soil wood) and/or derived-from waste (e.g., incinerator ash, calcine) that carry the U134 (CAS # 7664-39-3) hazardous waste number (Hydrogen Fluoride).

The following outlines the INEEL's position pertaining to compliance with the LDR treatment standard for the hazardous waste number U134 as it relates to PPE, soil, piping, wood and other non-liquid waste streams.

U 134 is a listed waste and is listed due to corrosivity and toxicity. The hazardous waste number is associated with unused commercial chemical products and off specification species and spills thereof. U134 is also associated with secondary waste streams that come into contact with or are derived-from the treatment of a waste source coded with the U134 hazardous waste number. Non-liquid secondary waste streams that contain no free liquids are by definition non-corrosive (per 40 CFR 261.22). As a result, requiring treatment in accordance with the current 40 CFR 268.40 treatment standard for purposes of land disposal is inappropriate.

Upon receipt of a site specific treatment variance, the INEEL will continue to manage these secondary non-liquid waste streams as a listed waste, unless a no longer contained-in or a delisting petition is pursued and approved by the Division of Environmental Quality (DEQ).

BACKGROUND

The 40 CFR 268.40 LDR specified treatment standard for non- wastewater U 134 is Adgas fb Neutr (Adsorption of gas followed by neutralization) OR Neutr (neutralization). Neutralization as described in 40 CFR 268.42 is " neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewater) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals."

U134 is a listed waste and as such the listed waste hazardous waste number can apply to multiple types of non-liquid secondary waste streams such as PPE, soil, wood that have contacted the source waste streams which carry the U 134 hazardous waste number. The U 134 hazardous waste number also applies to treatment residuals that are derived from the treatment of a U134 waste stream. The U134 LDR

treatment standard as developed by EPA and discussed in preamble language for the non-wastewater treatability group appears to be specific to situations involving reagent grade commercial chemical products or other secondary waste streams that exist in gaseous form or liquid form and whose pH is less than or equal to 2.0. It appears that the agency may not have considered non-liquid waste streams in the development of the U134 LDR treatment standard.

DISCUSSION

Neutralization of a non-liquid-non-corrosive secondary waste stream that has contacted or has been generated as a result of treating a U134 waste stream is contrary to current industrial efforts to minimize hazardous/mixed waste generation (i.e., large volumes of liquids resulting from neutralization efforts which carry the U134 waste number would be generated). Non-liquids for all intents and purposes are already neutralized/deactivated if evaluated per 40 CFR 261.22 criteria.

The following identifies three examples involving non-liquid-non-corrosive wastes that have the potential of carrying the U 134 hazardous waste number.

DEBRIS

1. Debris could be treated using alternative treatment technologies for debris or be treated to the 40 CFR 268.40 treatment standard for U134 by using a high pressure wash in accordance with the 40 CFR 268.45 treatment technologies (e.g., undergo a rinse with caustic solutions resulting in a listed waste "residual" liquid with a pH greater than 2.0 but less than 12.5). However, the resultant treatment residual could very well be a large volume hazardous waste (or mixed waste) that is subject to management Subtitle C management. Requiring treatment of debris to the current 40 CFR 268.40 LDR treatment standard of Neutr for U134 or requiring use of alternative treatment technologies to achieve compliance with LDRs in relation to U134 would be costly and inappropriate'. Based on the volume of PPE and other debris waste streams generated at the INEEL, waste minimization efforts as well as the cost of treatment would impede the overall goals of waste management at the INEEL.

For example, the HEEL generates large volumes of PPE that carry the U 134 hazardous waste number and can undergo combustion. Requiring a neutralization of debris would result in the generation large volumes of U 134 liquids. Alternatively, to require use of alternative treatment technologies in order to comply with the LDR treatment standard for a U134 hazardous waste number associated with a non-liquid waste form would be time consuming, costly and would dew use of available on-site treatment of these waste streams by combustion methodologies. Use of existing on-site treatment capabilities (e.g., combustion) combined with seeking a site specific treatment variance for non-liquid U134 waste streams provides flexibility in waste management activities and does not result in a threat to human health or the environment.

INCINERATOR ASH

2. Waste streams, which carries the U134 hazardous waste number that have undergone incineration and as a result have generated a U134 ash should not be subject to the current LDR treatment standard of neutralization. These waste treatment residuals cannot be classified as debris, continue to carry the U 134 listed waste number, and are currently subject to the specified treatment technology standard Neutr. Requiring incinerator ash and other non-liquid forms of treatment residuals to be subject to the LDR treatment standard of Neutr would also be inappropriate for the same reasons stated above (i.e., it is contrary to the goals of waste minimization, it is costly and poses no threat to human health or the environment while in solid form).

SOIL

3. Soil that has contacted source waste that carry the U134 EPA hazardous waste number (either as a result of a spill of commercial chemical product or by contacting a derived-from waste which carry the U 134 hazardous waste number) would also continue to be subject to the specified treatment technology standard Neutr. Requiring soil and other non-liquid waste forms to be subject to the LDR treatment standard of Neutr would be inappropriate for the same reasons stated previously (i.e., it is contrary to the goals of waste minimization, it is costly and poses no threat to human health or the environment while in solid form).

CALCINE

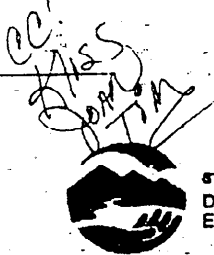
3. Calcine is a non-liquid treatment residual generated from the treatment of mixed waste at the INEEL INFTEC facility. The calcine solid carries the U134 hazardous waste number. Unless re-dissolved into a corrosive solution, requiring neutralization of calcine² requiring calcine and other non-liquid waste forms to be subject to the LDR treatment standard of Neutr would be inappropriate for the same reasons stated previously (i.e., it is contrary to the goals of waste minimization, costly and poses no threat to human health or the environment while in solid form).

CONCLUSION

It is the INEEL's position that treatment to the current 40 CFR 268.40 LDR treatment standard for non-liquid secondary and derived-from wastes associated with the U134 hazardous waste number is inappropriate. Although the few examples provided in this document encompass the bulk of INEEL waste streams, it is the INEEL's position that other secondary waste streams solids [e.g., non-debris items like bolts, nuts, small pipes and bits of metal associated with the U134 hazardous waste number that are not Gaseous and do not contain free liquids per the Paint Filter Liquid Test (SW-846 Method 9095)] be eligible for management under this request for a site specific treatment variance.

Secondary and derived-from waste streams that carry other hazardous waste numbers, other than U 134, (e.g., exhibits a characteristic and/or is listed for another hazardous waste number) will meet applicable LDR treatment standards for the hazardous waste number(s) assigned to the waste stream in question, prior to disposal.

2 Final treatment and management of calcine may include dissolution into a corrosive solution followed by neutralization. However, decisions on what the final treatment and subsequent management of calcine is to be has not been determined at this time.



STATE OF IDAHO
DIVISION OF
ENVIRONMENTAL QUALITY

1410 North Hiten • Boise, Idaho 83708-1255 • (208) 373-0602

Dirk Kempthorne, Governor
C. Stephen Allred, Administrator

August 25, 1999

Richard Gurske, Director
Environmental Affairs
LIMITCO
P.O. Box 1625
Idaho Falls, ID 83415

Dear Mr. Gurske:

This letter is in response to your July 22, 1999, request for a site-specific treatment variance for non-liquid wastes assigned the U134 (hydrogen fluoride) hazardous waste code. The Idaho Division of Environmental Quality (IDEQ) concurs non-liquid U134 waste streams generated at the INEEL differ significantly from waste used to establish the current LDR standard for U134. The IDEQ also agrees it is not EPA's intent to create a situation where large volumes of listed waste rinseate are generated from neutralizing U134 solids.

Pursuant to IDAPA 16.01.05.011 [40 CFR § 268.44(h)], the IDEQ grants INEEL a site-specific treatment variance for non-liquid U134 wastes. For a waste stream which carries multiple hazardous waste codes (i.e., incinerator ash), this variance only provides LDR relief for the U134 component of the waste stream. All other listed and/or characteristic waste constituents in the waste stream must be treated by the appropriate method as specified in 40 CFR Part 268.

Please call Matt Garringer, IDEQ Technical Services, at 373-0305 if you have any questions.

Sincerely,

Handwritten signature of Brian Monson.

Brian Monson
Hazardous Waste Program Manager
State Waste Program Office
Idaho Division of Environmental Quality

BRM/MG/sd *cc: not processing level var*

cc: Jim Johnston, Idaho Falls Regional Office
Mike Gregory, State Office
SF/INEEL
COF

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Appendix J

Waste Water Generation Estimates for SSSTF

WAG 3 Activities Generating Waste Water

updated 10/5/00 by ERN and RKP

<u>Group</u>	<u>Activity</u>	<u>Line Item</u> <u>From SOW</u>	<u>Schedule</u>	<u>Best Estimate</u> <u>Gallons</u>	<u>Estimated</u> <u>Minimum</u> <u>Volume</u>	<u>Estimated</u> <u>Maximum</u> <u>Volume</u>	<u>Comments</u>
4	Drilling Phase I Wells	40290	10/31/00 to 3/07/01	5,780	350	13,600	Estimate of water to be decanted off of drill cuttings frac tank. 14 perched water wells, 1 aquifer well
4	Sampling Phase I Wells	40310	3/08/01 to 4/06/01	1,500	1,500	2,000	Estimate based upon existing standing water in in perched water wells, no contribution from new lysimeters
4	Tracer Test	40340	3/29/01 to 9/19/01	250	0	5,000	Assumes use of carbon samplers and no purging of wells for sampling. Test plan in preparation and may change.
4	Drilling Phase II Wells	40560	7/24/02 to 2/21/03	7,800	700	19,600	4 perched water wells, 2 aquifer wells

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4	Sampling Year 1	40580	4/25/03 to 8/13/03	2,900	2,900	3,500	estimate based on existing perched water wells, plus 300 gall/well for new aquifer wells (skimmer wells)
4	Sampling Year 2	40640	10/02/03 to 09/03/04	2,900	2,900	3,500	
4	Sampling Year 3	40690	10/04/04 to 09/30/05	2,900	2,900	3,500	
4	Sampling Year 4	40740	10/04/05 to 09/29/06	2,900	2,900	3,500	
4	Sampling Year 5	40790	10/03/06 to 09/28/07	2,900	2,900	3,500	
5	INTEC Baseline GW Sampling	50280	10/11/00 to 11/21/00	42,300	35,000	50,000	Initial sampling 47 wells, estimate 900 gall/well
5	Micropurge Sampling	50300	11/22/00 to 01/19/01	2,100	2,100	2,100	Sampling 21 wells, estimate 100 gall/well

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5	Facility Monitoring Year 1	50430	05/25/01 to 06/26/01	21,000	1,200	23,400	Sampling 21 wells, estimate 1,000 gall/well, estimated minimum based on micropurging
5	Facility Monitoring Year 2	50430	5/22/02 to 6/21/02	21,000	1,200	23,400	Sampling 21 wells, estimate 1,000 gall/well, estimated minimum based on micropurging
5	Facility Monitoring Year 3	50430	5/20/03 to 6/19/03	21,000	1,200	23,400	Sampling 21 wells, estimate 1,000 gall/well, estimated minimum based on micropurging
5	Facility Monitoring Year 4	50430	5/20/04 to 6/19/04	21,000	1,200	23,400	Sampling 21 wells, estimate 1,000 gall/well, estimated minimum based on micropurging
5	Facility Monitoring Year 5	50430	5/20/05 to 6/19/05	21,000	1,200	23,400	Sampling 21 wells, estimate 1,000 gall/well, estimated minimum based on micropurging
5	Drilling Grp 5 Wells	50730	5/30/01 to 8/30/01	35,000	10,000	100,000	Estimate 5 aquifer wells, 2000 gall/well drilling, 5,000 gall/well if well development required

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5	Vertical Profile Sampling	50750	10/03/01 to 10/23/01	7,900	4,400	13,200	Assume sampling 7 wells, 10 zones in each well, each zone 10 ft long by 8 inch diameter
5	24-hr Pumping/Statistic Sampling	50780	01/25/02 to 2/11/02	4,320	2,500	7,500	Assume sampling 6 zones, pumping each zone 24-hr at 0.5 gpm, 720 gall purged per zone

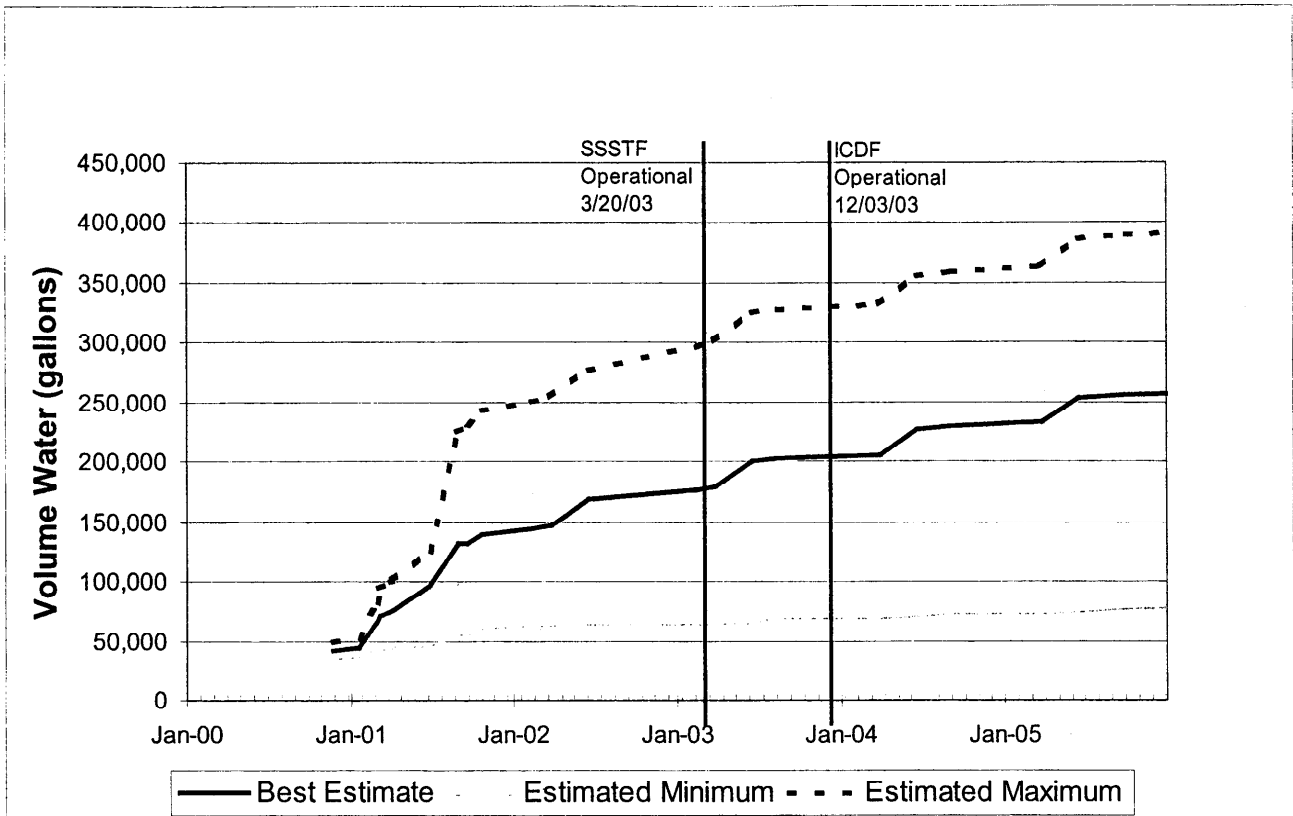
WAG 3 Activities Generating Waste Water (con't)

updated 10/5/00 by ERN

<u>Group</u>	<u>Activity</u>	<u>Line Item</u> <u>From SOW</u>	<u>Schedule</u>	<u>Best Estimate</u> <u>Gallons</u>	<u>Estimated</u> <u>Minimum</u> <u>Volume</u>	<u>Estimated</u> <u>Maximum</u> <u>Volume</u>	<u>Comments</u>
ICDF	Groundwater Monitoring	NA	NA	0			Assume ICDF monitoring will be initiated at time ICDF becomes operational. Should not impact SSSTF.

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OU3-14	Well Drilling	NA	01/01/01 to 03/01/01	21,000	6,000	30,000	Assume 3 aquifer wells drilled 1st quarter 2001 per TJ Meyer. Estimate 2000 gall/well drilling/ 5000 gall/well development
OU3-14	Groundwater Sampling Yr 1	NA	03/02/01 to 03/30/01	3,000	100	4,000	Sampling 3 wells, 1000 gall/well, Estimate annual sampling, minimum based on micropurge
OU3-14	Groundwater Sampling Yr 2	NA	03/02/02 to 03/30/02	3,000	100	4,000	Sampling 3 wells, 1000 gall/well
OU3-14	Groundwater Sampling Yr 3	NA	03/02/03 to 03/30/03	3,000	100	4,000	Sampling 3 wells, 1000 gall/well
OU3-14	Groundwater Sampling Yr 4	NA	03/02/04 to 03/30/04	3,000	100	4,000	Sampling 3 wells, 1000 gall/well
OU3-14	Groundwater Sampling Yr 5	NA	03/02/05 to 03/30/05	3,000	100	4,000	Sampling 3 wells, 1000 gall/well



Summary of Water Generated by Year

<u>Summary of Water Generated by Year</u>			
<u>Year</u>	Volume Estimates in Gallons		
	Best Estimate	Estimated Minimum	Estimated Maximum
2000	42,300	35,000	50,000
2001	97,530	25,650	193,300
2002	28,320	3,800	34,900
2003	34,700	4,900	50,500
2004	26,900	4,200	30,900
2005	26,900	4,200	30,900
2006	2,900	2,900	3,500
2007	2,900	2,900	3,500